FIG. 1

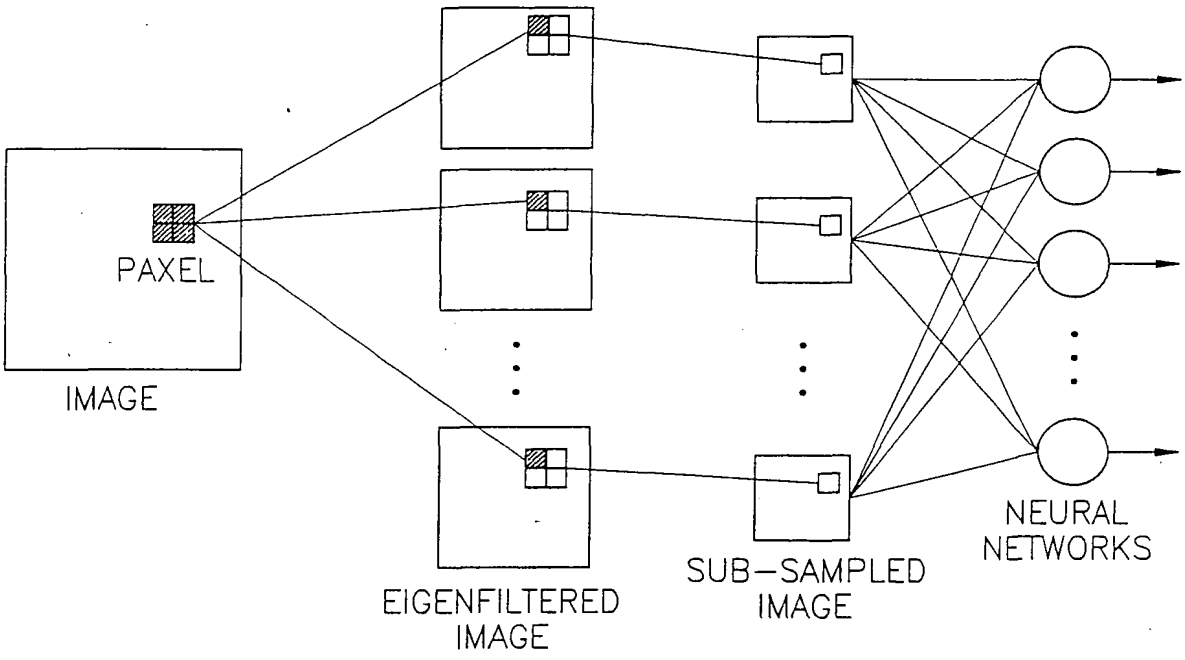
PAXEL
IMAGE
EIGENFILTERED IMAGE
SUB-SAMPLED IMAGE
NEURAL NETWORKS

FIG. 2A

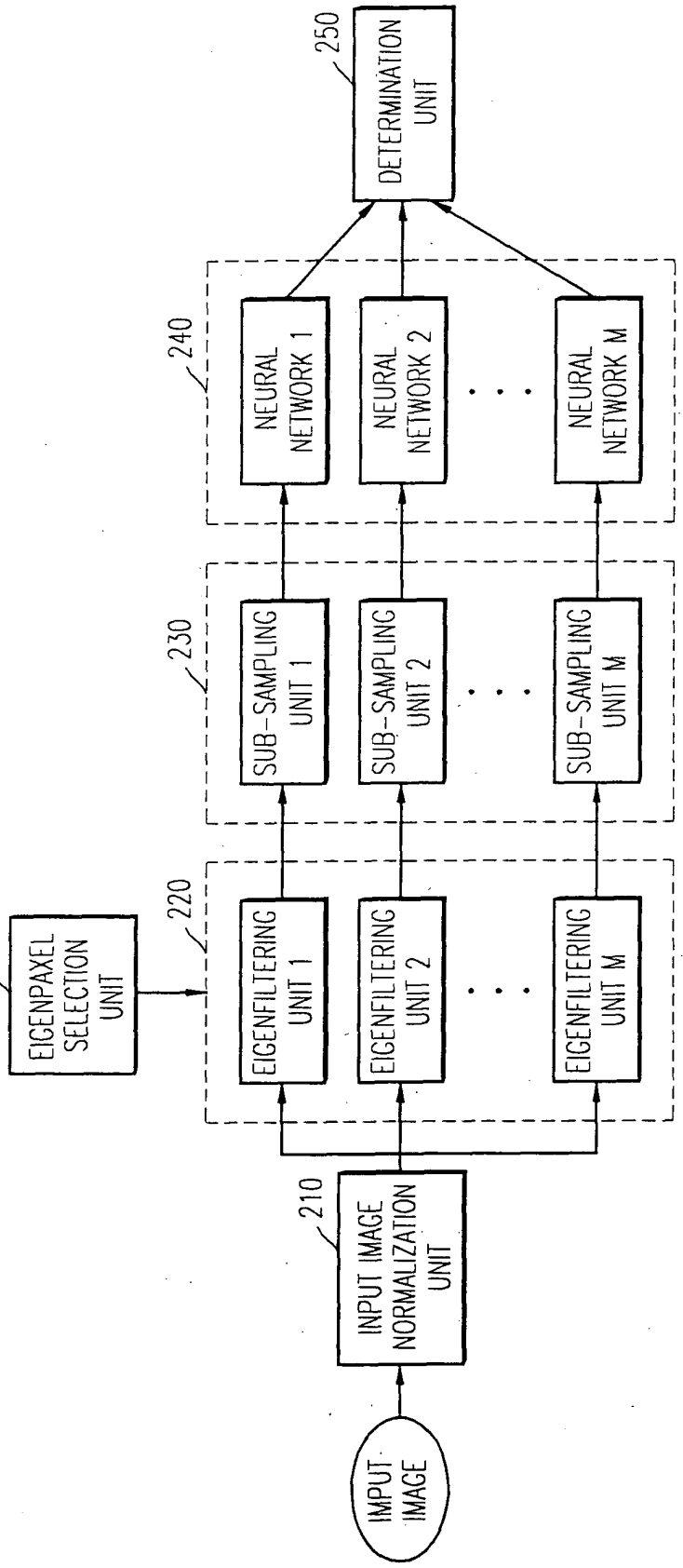
IMPUT IMAGE
210
INPUT IMAGE NORMALIZATION UNIT
200
EIGENPAXEL SELECTION UNIT
220
EIGENFILTERING UNIT 1
EIGENFILTERING UNIT 2
EIGENFILTERING UNIT M
230
SUB-SAMPLING UNIT 1
SUB-SAMPLING UNIT 2
SUB-SAMPLING UNIT M
240
NEURAL NETWORK 1
NEURAL NETWORK 2
NEURAL NETWORK M
250
DETERMINATION UNIT

FIG. 2B

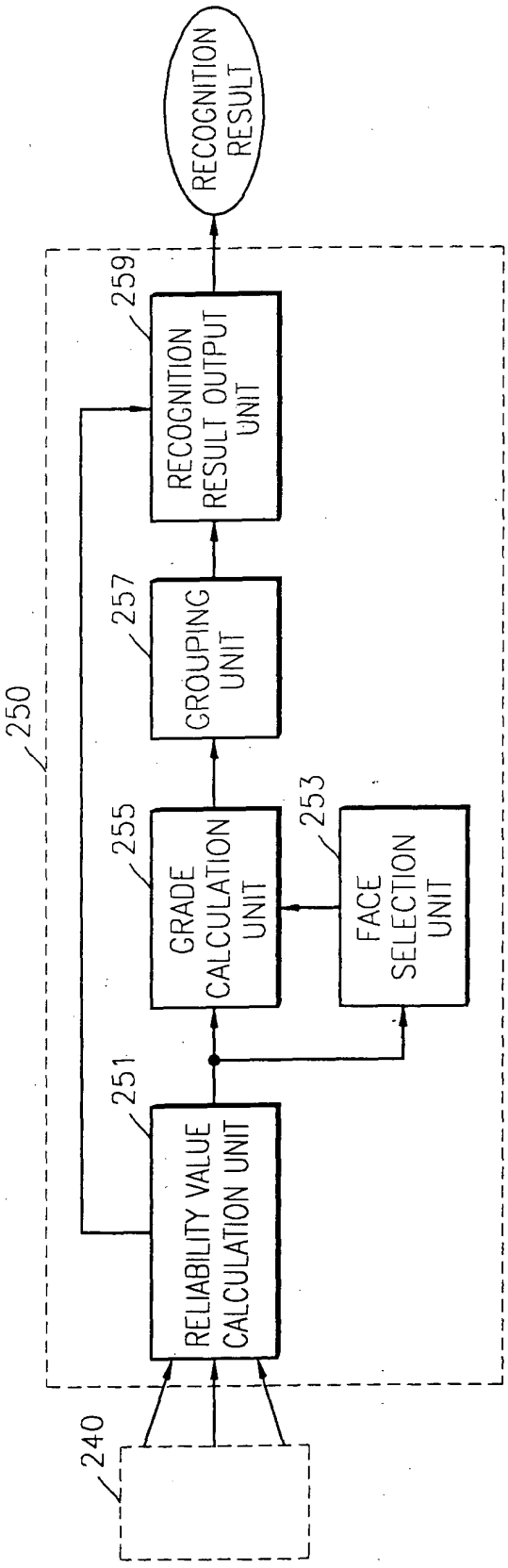
RECOGNITION RESULT
250
259
RECOGNITION RESULT OUTPUT UNIT
257
GROUPING UNIT
255
GRADE CALCULATION UNIT
253
FACE SELECTION UNIT
251
RELIABILITY VALUE CALCULATION UNIT
240

FIG. 3

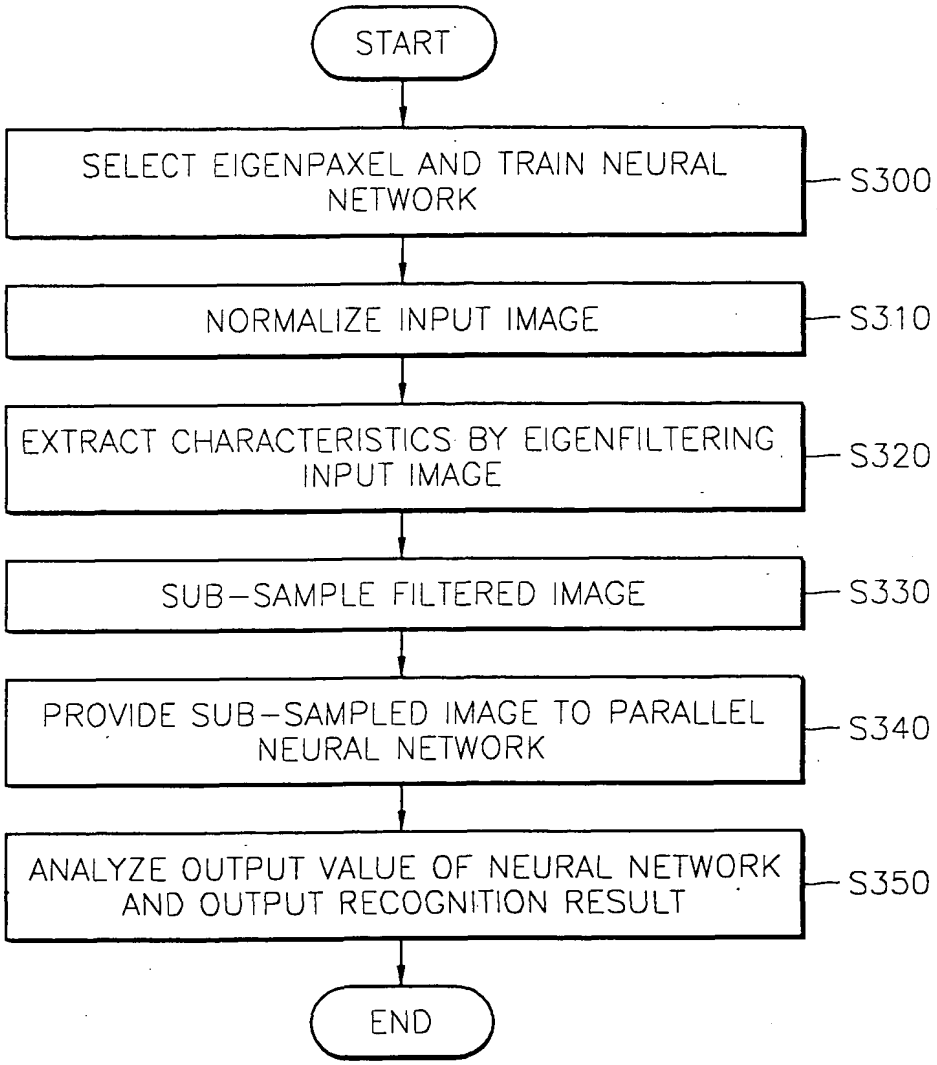
START
SELECT EIGENPAXEL AND TRAIN NEURAL NETWORK
S300
NORMALIZE INPUT IMAGE
S310
EXTRACT CHARACTERISTICS BY EIGENFILTERING INPUT IMAGE
S320
SUB-SAMPLE FILTERED IMAGE
S330
PROVIDE SUB-SAMPLED IMAGE TO PARALLEL NEURAL NETWORK
S340
ANALYZE OUTPUT VALUE OF NEURAL NETWORK AND OUTPUT RECOGNITION RESULT
S350
END

FIG. 4

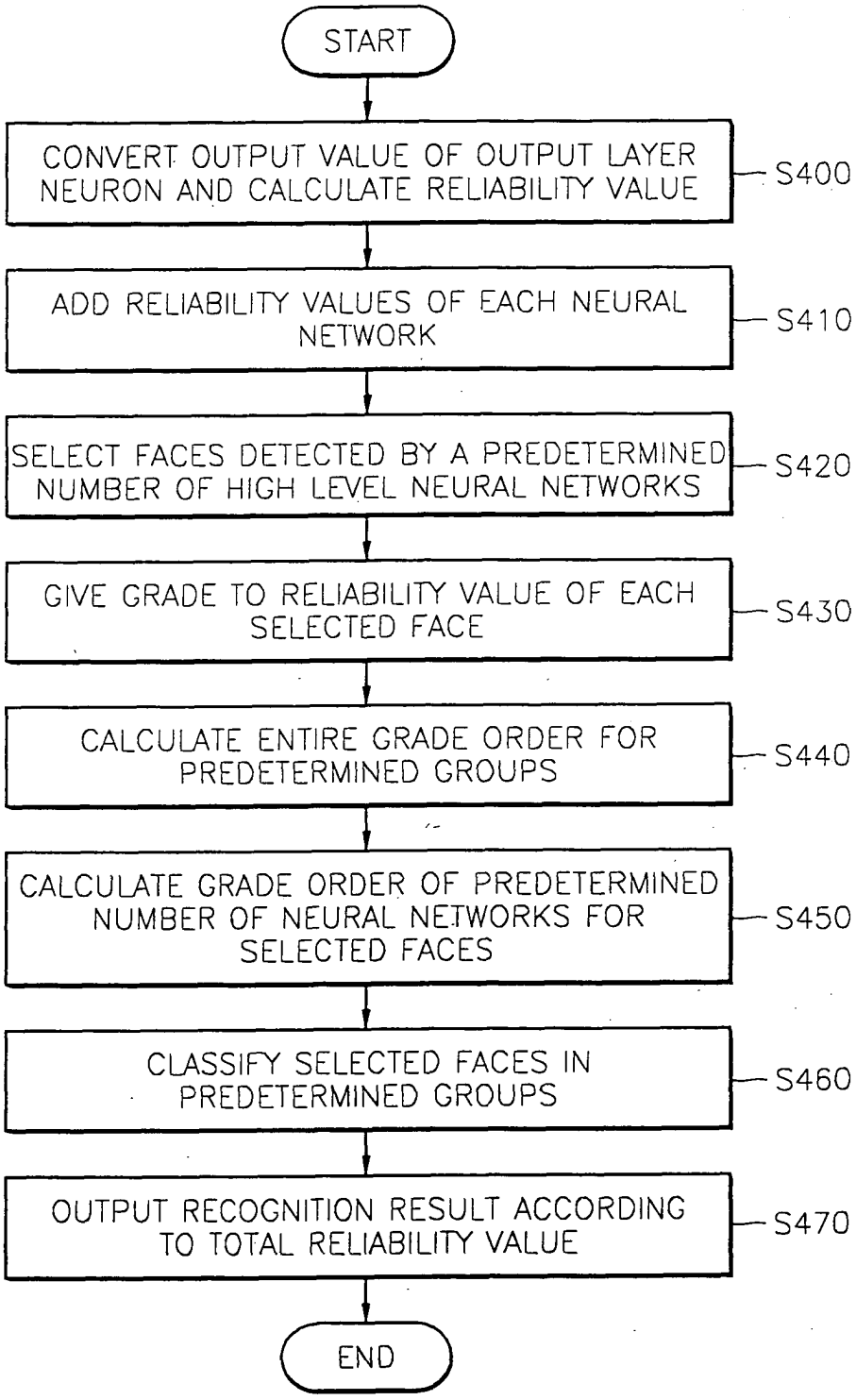
START
CONVERT OUTPUT VALUE OF OUTPUT LAYER NEURON AND CALCULATE RELIABILITY VALUE
S400
ADD RELIABILITY VALUES OF EACH NEURAL NETWORK
S410
SELECT FACES DETECTED BY A PREDETERMINED NUMBER OF HIGH LEVEL NEURAL NETWORKS
S420
GIVE GRADE TO RELIABILITY VALUE OF EACH SELECTED FACE
S430
CALCULATE ENTIRE GRADE ORDER FOR PREDETERMINED GROUPS
S440
CALCULATE GRADE ORDER OF PREDETERMINED NUMBER OF NEURAL NETWORKS FOR SELECTED FACES
S450
CLASSIFY SELECTED FACES IN PREDETERMINED GROUPS
S460
OUTPUT RECOGNITION RESULT ACCORDING TO TOTAL RELIABILITY VALUE
S470
END

FIG. 5

FIG. 6

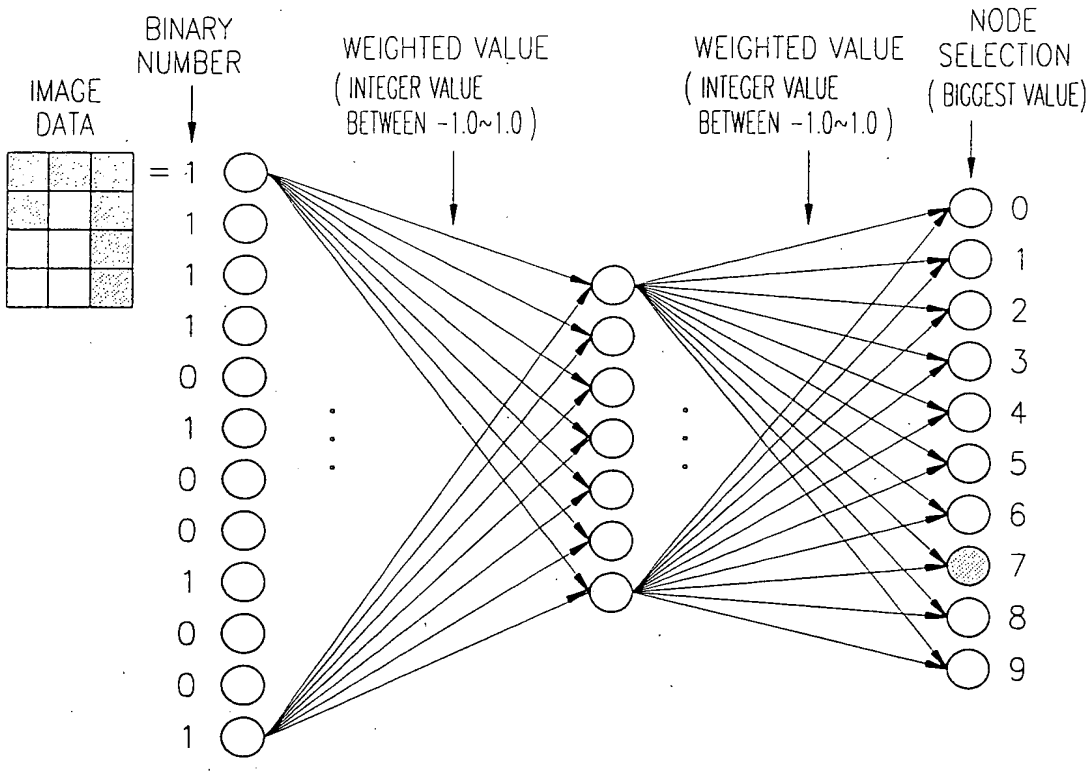
IMAGE DATA
BINARY NUMBER
WEIGHTED VALUE (INTEGER VALUE BETWEEN -1.0~1.0)
WEIGHTED VALUE (INTEGER VALUE BETWEEN -1.0~1.0)
NODE SELECTION (BIGGEST VALUE)
1
1
1
1
0
1
0
0
1
0
0
1
0
1
2
3
4
5
6
7
8
9

FIG. 7

FIG. 8

Grade sequence :			
if		conf $\geq$ 0.8,	then A,
if	0.8 >	conf $\geq$ 0.6,	then B,
if	0.6 >	conf $\geq$ 0.4,	then C,
if	0.4 >	conf $\geq$ 0.2,	then D,
if	0.2 >	conf $\geq$ 0.1,	then E,
if	0.1 >	conf $\geq$ 0.01,	then F,
if	0.01 >	conf $\geq$ 0.001,	then G,
if	0.001 >	conf $\geq$ 0.0001,	then H,
if	0.0001 >	conf,	then I,
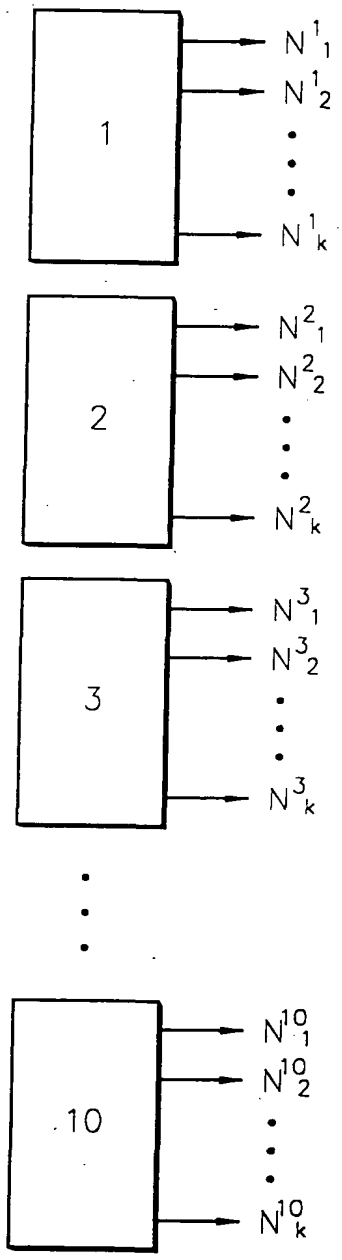
FIG. 9